

KY Division for Air Quality Agriculture & Air Emissions

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Introduction

- Objective- Discuss potential air emissions of concern related to farming and agricultural operations
- What will you learn?
 - Restrictions on Open Burning in Kentucky
 - Dust control rules
 - Odor control rules
 - Stationary engines; brief review of rules

What is Open Burning?



Burning of any material without a burn chamber, stack, or chimney, with control devices, approved by the KY Division for Air Quality.

Smoke from open burning contains harmful substances, including:



- Dioxins
- Particulate matter
- Volatile organic compounds
- Corrosives

Open Burning Impacts Human Health

Smoke from open burning:

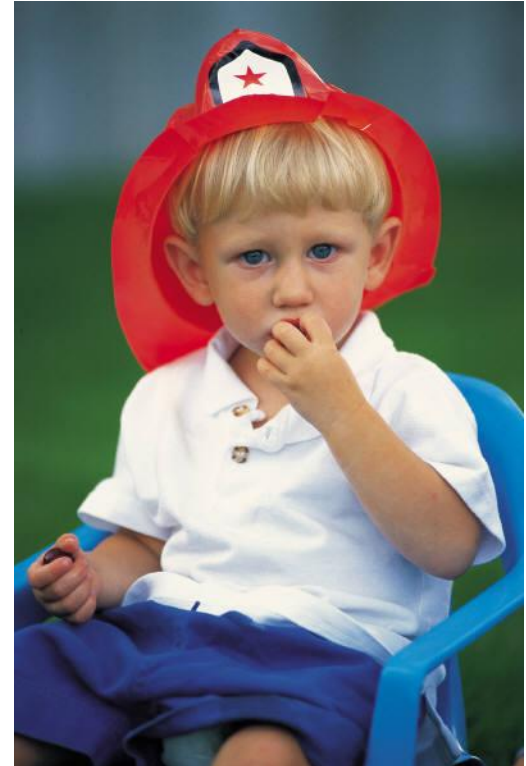
- Depresses the central nervous system
- Is especially harmful to children and adults with respiratory diseases



Kids are especially vulnerable



Developing bodies are especially sensitive to toxins and smoke from open burning.



Smoke Travels



Smoke from land clearing & wildfires on October 22, 2010

Legal, or Illegal?

“Open burning is prohibited,,,” with a list of exceptions.



*What, when, where,
and how a material is
burned determines if
the burning is legal
or illegal.*

Legal Burning Activities



- Fires set for recreational or ceremonial purposes (camp fires, bonfires)
- Small fires set for comfort heat at construction sites (only when air temp. is below 50°)
- Fires set for cooking (camp fires, grills)

Legal Burning Activities

Burning of:

- Natural growth disturbed as part of land clearing activities (development sites, etc.)
- Trees and/or tree limbs, felled by storms



Legal Burning Activities



Fires set for recognized agricultural, silvicultural, range, or wildlife management practices.

Legal Burning Activities

Fires set for the purpose of instruction and training of firefighters.



- Must receive written permission from State Fire Commission & KY Division for Air Quality
- Materials likely to produce toxic emissions must be removed prior to burn
- Additional restrictions apply

Legal Burning Activities

Leaf burning, with some restrictions



Generally only in cities with
population less than 8,000

check local ordinance

Many cities ban leaf burning

What About Trash?

Nearly everything found in household trash is illegal to burn.

- Plastic
- Coated paper and cardboard
- Food
- Foam insulation
- Styrofoam
- Metal & glass
- Aerosol cans
- Rubber
- Painted products
- Diapers, clothing



Prohibited Burn Items...

- Tires
- Plastic
- Rubber
- Coated wire
- Insulated wire
- Foam insulation
- Used oil



Prohibited Burn Items: Agricultural

- Bedding material
- Muck piles
- Carcasses
- Hay
- Lumber
- Fence posts & wood pallets
- Buildings, barn, sheds, etc.



Prohibited Burn Items...



- Chemical, pesticide, and herbicide containers
- Household chemical containers
- Exception for explosives containers

Prohibited Burn Items:

Construction/Demolition



- Asbestos materials
- Buildings (houses, barns, garages)
- Construction debris
- Demolition debris
- Drywall
- Shingles

Prohibited Burn Items: Waste from Businesses, Schools, & Churches



- Other than land clearing for development, businesses may not dispose of any waste by open burning.
- Debris from private businesses may not be transported for open burning elsewhere

Disposing of Storm Debris

Demolition debris may *not* be burned. Debris may contain asbestos and other hazardous materials.



Demolition debris piles should be kept wet until final disposal in a landfill.

Restrictions during fire hazard season:

Oct. 1 – Dec. 15 *and*
Feb. 15 – April 30



During fire hazard season,
burning within 150 feet of any
woodland or brushland area is
allowed *only during evening
hours* between 6 p.m. & 6 a.m.

Illegal burning could result in a fine of
\$25,000 per day, per violation.



There is no blanket
exemption for agricultural
operations.

For more information or to
report illegal burning
Call the Open Burn Hotline:
888-BURN-LAW
888-287-6529

Dust

We call it “fugitive emissions”

401 KAR 63:010. Fugitive emissions.

RELATES TO: KRS Chapter 224

STATUTORY AUTHORITY: KRS 224.10-100

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 requires the Environmental and Public Protection Cabinet to prescribe administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation provides for the control of fugitive emissions.

Section 1. Applicability. The provisions of this administrative regulation are applicable to each affected facility as defined in Section 2 of this administrative regulation.

Section 2. Definitions. Terms used in this administrative regulation not defined herein shall have the meaning given to them in 401 KAR 50:010.

(1) "Affected facility" means an apparatus, operation, or road which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

(2) "Fugitive emissions" means the emissions of any air contaminant into the open air other than from a stack or air pollution control equipment exhaust.

(3) "Open air" means the air outside buildings, structures, and equipment.

(4) "Classification date" means the effective date of this administrative regulation.

Section 3. Standards for Fugitive Emissions. (1) No person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

(a) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

(b) Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts;

(c) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations;

(d) Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;

(e) The maintenance of paved roadways in a clean condition;

(f) The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.

(2) No person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.

(3) When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

(4) The provisions of this administrative regulation shall not apply to agricultural practices, such as tilling of land or application of fertilizers, which take place on a farm.

Section 4. Additional Requirements. In addition to the requirements of Section 3 of this administrative regulation, the following shall apply:

(1) At all times when in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered.

(2) Agricultural practices, such as tilling of land or application of fertilizers, which take place on a farm shall be conducted in such a manner as to not create a nuisance to others residing in the area. Agricultural practices are not subject to the opacity standard.

(3) The provisions of Section 3(1) and (2) of this administrative regulation shall not be applicable to temporary blasting or construction operations.

(4) No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. (5 Ky.R. 511; Am. 6 Ky.R. 50; eff. 6-29-1979; TAm eff. 8-9-2007.)

Dust

The good news,,, Agricultural practices are exempt from this regulation.*

*With two minor exceptions...

You didn't think you'd get off that easy, did you?

<http://www.lrc.ky.gov/kar/401/063/010.htm>

Dust

#1

*“Agricultural practices, such as tilling of land or application of fertilizers, which take place on a farm shall be conducted in such a manner as to **not create a nuisance to others residing in the area.**”*

So, if your operations are causing a nuisance to a neighboring residence you may be cited and must take steps to control the nuisance dust.

Dust

#2

“No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway.”

If you track, drop, or spill mud, or other dusty materials, onto a paved road you may be cited for that and required to remove the material and take reasonable steps to control and prevent the situation.

Odor

<http://www.lrc.state.ky.us/kar/401/053/010.htm>

“At any time when 1 volume unit of ambient air is mixed with 7 volume units of odorless air, the mixture must have no detectable odor.”

That means it has to be pretty strong to be a violation, but the characteristics of the odor do not matter. Smells good, smells bad; doesn't matter. If it's strong enough to smell after dilution it's a violation and must be stopped.

Odor

The Kentucky odor standard only applies in response to a citizen complaint about the odor.

We don't go looking for odors, we only respond to complaints.



Odor

There is no blanket exemption from the Kentucky odor standard for agricultural operations.

Stationary Engines

aka: the RICE rules

Overview

- NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)
- NSPS for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE)
- NSPS for Stationary Spark Ignition (SI) ICE

Lets start by listing what engines are **NOT** subject to the rules

- Mobile engines
- Residential, commercial, or institutional emergency power, stationary, engines (generators) installed before 2006.
- ... that's about it!

Stationary vs. Mobile

- Stationary means not used in a motor vehicle and not a nonroad engine
 - Nonroad engines are:
 - Self-propelled (tractors, bulldozers)
 - Propelled while performing their function (push mowers, tillers, weed eaters, etc.)
 - Portable or transportable (has wheels, skids, carrying handles, dolly, trailer, or platform)
 - Portable nonroad becomes stationary if it stays in one location for more than 12 months (note different time criteria for seasonal source)



RICE Rule – It's Complicated!

“40 CFR Part 63 Subpart ZZZZ ... is the most complicated and confusing regulation in the entire suite of EPA NSPS and NESHAPS regulations, bar none.”

Public comment submitted in response to EPA's request for public input on improving regulations per Executive Order 13563

Here's the good news

- Unless your stationary engine is located at a permitted air source that is major for hazardous air pollutants,
- Or, the engine is larger than 500 hp
- Or, you bought an uncertified engine,
- The most you'll likely have to do is register, do regular tune-ups, and keep usage records.

Best place for answers

- <http://www.epa.gov/ttn/atw/icengines/>
- With your engine's spec sheet in hand, go to this web page and let EPA's online tool walk you through the steps to determine what your obligations are.
- <http://www.epa.gov/ttn/atw/rice/output/quiz.html>
- AND THEN,,, do it again here;
- <http://www.epa.gov/ttn/atw/ice/quiz.html>

If the Web Tool says your subject to the rule(s),,,

- You must also register your engine with the KY Division for Air Quality (DAQ)
- Registration form for Kentucky is here;
- <http://dep.ky.gov/formslibrary/Documents/DEP7039A%20Form.doc>
- If you already have an air permit from DAQ then it needs to be revised to include any engines not listed

IX. Summary

- What have you learned?
 - Restrictions on open burning
 - Dust rules
 - Odor rules
 - Stationary engine rules (basics)
- For questions about this presentation contact me at jarrod.bell@ky.gov or call 502-564-3999

For more information concerning Air inspections and compliance, you may also contact your DAQ Regional Office

<http://dep.ky.gov/Pages/RegionalOffices.aspx>

Ashland	Karen Deskins	(606) 929-5285
Bowling Green	Troy Tabor	(270) 746-7475
Florence	Clay Redmond	(859) 525-4923
Frankfort	Natasha Parker	(502) 564-3358
Hazard	Steve Hall	(606) 435-6022
London	David Shivel	(606) 878-0157
Owensboro	Mac Cann	(270) 687-7304
Paducah	Charles Stangle	(270) 898-8468

Additional Resources

EPA main Ag and Air Quality page

<http://www.epa.gov/agriculture/anafoair.html>

<http://www.epa.gov/agriculture/air.html>

<http://www.epa.gov/agstar/index.html>

Clean Diesel Program

<http://www.epa.gov/agriculture/tfuel.html#ncdc>

<http://southeastdiesel.org/>

Texas A&M Center for Agricultural Air Quality Engineering and Science <http://caaqes.tamu.edu/>



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